

CLAIMS

What is claimed is:

1. A heat transfer system comprising a heat exchange component having a heat exchange surface and a non-stick coating applied to the heat exchange surface, the non-stick coating adapted to inhibit adherence of frozen moisture to the heat exchange surface.

2. The heat transfer system of claim 1 wherein the heat exchange component comprises fluid transfer tubing.

3. The heat transfer system of claim 2 wherein the heat exchange component further comprises heat transfer fins in thermal contact with the fluid transfer tubing.

4. The heat transfer system of claim 3 wherein the fluid transfer tubing and heat transfer fins are oriented to promote gravity flow of frozen moisture away from the heat exchange component.

5. The heat transfer system of claim 1 further comprising a protective shell positioned around the heat exchange component, the protective shell also having non-stick coating adapted to inhibit the adherence of frozen moisture to the shell.

6. The heat transfer system of claim 5 wherein the protective shell is shaped to enhance convection air flows through the shell and around the heat exchange component.

7. The heat transfer system of claim. 6 wherein the protective shell further comprises outwardly flared top and bottom portions.

8. The heat transfer system of claim 1 further comprising a fan positioned proximate the heat exchange component.

5 9. The heat transfer system of claim 8 wherein exposed surfaces of the fan are coated with a non-stick coating.

10. The heat transfer system of claim 1 further comprising a vibrator operatively connected to the heat exchange component to promote release of frozen moisture from the heat exchange surface.

10 11. The heat transfer system of claim 10 wherein exposed surfaces of the vibrator are coated with a non-stick coating.

12. The heat transfer system of claim 1 further comprising a base positioned below the heat exchange component, the base sloped downwardly and outwardly to direct frozen moisture accumulations away from the heat exchange component, the base provided with a non-stick coating adapted to inhibit adherence of frozen moisture.

15 13. In a heat exchange system such as an air-source heat pump system, an open loop or closed loop water-source heat pump system, a direct expansion heat pump system, or an evaporative cooling system, the heat exchange system having at least one heat exchange component with exposed heat transfer surfaces, an

improvement comprising a non-stick coating applied to the exposed heat transfer surfaces.

14. A method of inhibiting ice accumulation on exposed heat transfer surfaces of heat exchange components in heat exchange systems comprising coating
5 the heat transfer surfaces with a non-stick material.

15. The method of claim 14 wherein the non-stick material comprises PTFE.

16. The method of claim 14 wherein the non-stick material comprises fluoropolymer dip coating.

17. The method of claim 14 wherein the non-stick material comprises a
10 triazine-dithiol derivative.